

3 an upstream manager receiving messages from said client and routing said  
4 messages to an appropriate service on said server, said upstream manager being  
5 coupled to a first network;

6 a downstream manager sending a stream of said multimedia data from said  
7 appropriate service on said server to said client, said downstream manager  
8 being coupled to a second network; and

9 a connection service for maintaining information to connect said client, said  
10 upstream manager, said downstream manager, and said appropriate service on  
11 said server.

1 <sup>2</sup> ~~6.~~ (Amended) The server in Claim <sup>1</sup> ~~8~~ wherein said connection service further creates a  
2 virtual [circuit] connection between an upstream address and a downstream address for said  
3 client.

1 <sup>3</sup> ~~7.~~ (Amended) The server in Claim <sup>2</sup> ~~8~~ wherein said connection service also manages  
2 said virtual [circuit] connection.

1 <sup>4</sup> ~~8.~~ (Amended) A computer-implemented method for retrieving and transporting  
2 multimedia data between a client and a server on a network, said computer-implemented  
3 method comprising the steps of :

4 [issuing] receiving a client request for initialization in a message to an upstream  
5 manager in said server, said upstream manager being coupled to a first network;

6 obtaining an upstream physical address for said client as said client request enters  
7 said server;

8 allocating a downstream physical address and downstream logical address to said  
9 client corresponding to the upstream physical address obtained for said client,  
10 said downstream physical address being used by a downstream manager for  
11 sending a stream of said multimedia data from a service on said server to said  
12 client, said downstream manager being coupled to a second network; and

13 updating a connection service table with said upstream physical address, said  
14 downstream physical address, and said downstream logical address for said  
15 client.

1 <sup>5</sup> ~~9~~. (Amended) The computer-implemented method in Claim <sup>4</sup> ~~8~~ wherein further  
2 comprising the steps of:

3 [issuing] receiving a service request message from said client to said server via said  
4 upstream manager, said service request corresponding to said service on said  
5 server, said service request message including said client downstream logical  
6 address and a service destination logical address;

7 generating a response message from said server to said client, said response  
8 message including said client downstream logical address; and

9 sending said response message to said client via said downstream manager.

1 <sup>6</sup> ~~10~~. (Amended) The computer-implemented method in Claim <sup>4</sup> ~~9~~ wherein said step of  
2 updating said connection service with said upstream and downstream addresses for said

3 client includes the step of creating a virtual [circuit] connection between said upstream and  
4 downstream addresses for said client.

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1 ~~11~~. (Amended) The computer-implemented method in Claim ~~10~~ wherein said step of  
2 creating said virtual [circuit] connection between said upstream and downstream addresses  
3 for said client further includes the step of managing said virtual [circuit] connection.

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1 ~~12~~. (Amended) The computer-implemented method in Claim ~~11~~ wherein said step of  
2 managing said virtual [circuit] connection includes the steps of:  
3 creating a routing table containing said client downstream logical address and a  
4 corresponding client downstream physical address;  
5 accessing said connection service table; and  
6 utilizing information in said routing table and said connection service table to route  
7 said client service request message from said client to said service in said server  
8 and to route said response message from said service in said server to said client  
9 via said downstream manager.

1 13. (Unchanged) The computer-implemented method in Claim 8 wherein said request  
2 for initialization to said upstream manager is a Remote Procedure Call (RPC).

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1 14. (Amended) A computer-implemented method for scalable, high bandwidth storage,  
2 retrieval and transportation of multimedia data on a network, said computer-implemented  
3 method comprising the steps of:

4 storing only one copy of said multimedia data in a data repository wherein said only  
5 one copy of said multimedia data is available for retrieval concurrently by  
6 multiple clients;

7 retrieving said only one copy of said multimedia data from said data repository in  
8 response to requests received over a first network from said multiple clients;  
9 and

10 transporting contents of said only one copy of said multimedia data from said data  
11 repository to said multiple clients via a second network, said only one copy of  
12 said multimedia data being accessed repeatedly to concurrently service said  
13 requests from said multiple clients.

1 15. (Amended) The computer-implemented method in Claim 14 wherein the step of  
2 retrieving said only one copy of said multimedia data from said data repository further  
3 comprises the steps of:

4 routing said requests from said multiple clients to a real-time scheduler;

5 analyzing said requests to determine a load on said second network and said data  
6 repository;

7 determining when said requests can be granted based on said load; and

8 scheduling access to said multimedia data based on said step of determining.

1 16. (Unchanged) The computer-implemented method in Claim 14 wherein said  
2 multimedia data includes Binary Large Objects (BLOBs).

1 17. (Amended) A high bandwidth, scalable server for storing, retrieving, and  
2 transporting multimedia data to a client in a networked system, said server comprising:

3 means for storing only one copy of said multimedia data in a data repository  
4 wherein said only one copy of said multimedia data is available for retrieval by  
5 multiple clients;

6 means for retrieving said only one copy of said multimedia data from said data  
7 repository in response to requests received over a first network from said  
8 multiple clients; and

9 means for transporting contents of said only one copy of said multimedia data from  
10 said data repository to said multiple clients via a second network, said only one  
11 copy of said multimedia data being accessed repeatedly to concurrently service  
12 said requests from said multiple clients.

1 18. (Amended) The server in Claim 17 wherein the means for retrieving said only one  
2 copy of said multimedia data from said data repository further comprises:

3 means for routing said requests from said multiple clients to a real-time scheduler;

4 means for analyzing said requests to determine a load on said second network and  
5 said data repository;

6 means for determining when said requests can be granted based on said load; and  
7 means for scheduling access to said multimedia data based on said step of  
8 determining.

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1 ~~19~~. (New) A high bandwidth, scalable server for storing, retrieving, and transporting  
2 multimedia data to a client in a networked system, said server comprising:

3 means for receiving a client request for initialization in a message to an upstream  
4 manager in said server, said upstream manager being coupled to a first network;

5 means for obtaining an upstream physical address for said client as said client  
6 request enters said server;

7 means for allocating a downstream physical address and downstream logical  
8 address for said client corresponding to the upstream physical address obtained  
9 for said client, said downstream physical address being used by a downstream  
10 manager for sending a stream of said multimedia data from a service on said  
11 server to said client, said downstream manager being coupled to a second  
12 network; and

13 means for updating a connection service table with said upstream physical address,  
14 said downstream physical address, and said downstream logical address for  
15 said client.

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1 ~~20~~. (New) The server as claimed in Claim ~~19~~ further including:

2 means for receiving a service request message from said client via said upstream  
3 manager, said service request corresponding to said service on said server, said

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4 service request message including said client downstream logical address and a  
5 service destination logical address;

6 means for generating a response message to said client, said response message  
7 including said client downstream logical address; and

8 means for sending said response message to said client via said downstream  
9 manager.

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1 ~~21~~. (New) The server as claimed in Claim ~~19~~ further including:

2 means for creating and managing a virtual connection between said upstream and  
3 downstream addresses for said client.

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1 ~~22~~. (New) The server as claimed in Claim ~~21~~ wherein said means for creating and  
2 managing said virtual connection further includes:

3 means for creating a routing table containing said client downstream logical address  
4 and a corresponding client downstream physical address;

5 means for accessing said connection service table; and

6 means for utilizing information in said routing table and said connection service  
7 table to route said client service request message from said client to said service  
8 in said server and to route said response message from said service in said  
9 server to said client via said downstream manager.

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1 23. (New) The server as claimed in Claim 19 wherein said means for receiving a client  
2 request for initialization further includes a means for receiving a Remote Procedure Call  
3 (RPC).

1 24. (New) A high bandwidth, scalable server for storing, retrieving, and transporting  
2 multimedia data for multiple client in a networked system, said server comprising:

3 an upstream manager receiving messages from said multiple clients and routing said  
4 messages to an appropriate service on said server, said upstream manager being  
5 coupled to a first network;

6 a downstream manager sending a stream of said multimedia data from said  
7 appropriate service on said server to said multiple clients, said downstream  
8 manager being coupled to a second network;

9 a connection service for maintaining information to connect said multiple clients,  
10 said upstream manager, said downstream manager, and said appropriate service  
11 on said server;

12 means for storing only one copy of said multimedia data in a data repository  
13 wherein said only one copy of said multimedia data is available for retrieval by  
14 said multiple clients;

15 means for retrieving said only one copy of said multimedia data from said data  
16 repository in response to requests received over the first network from said  
17 multiple clients; and

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18 means for transporting contents of said only one copy of said multimedia data from  
19 said data repository to said multiple clients via the second network, said only  
20 one copy of said multimedia data being accessed repeatedly to concurrently  
21 service said requests from said multiple clients.

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1 25. (New) The server in Claim 24 wherein the means for retrieving said only one copy  
2 of said multimedia data from said data repository further includes:

3 means for routing said requests from said multiple clients to a real-time scheduler;

4 means for analyzing said requests to determine a load on said second network and  
5 said data repository;

6 means for determining when said requests can be granted based on said load; and

7 means for scheduling access to said multimedia data based on said step of  
8 determining.

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